HLA Evolution Process

August 1996

AMG-13
HLA Evolution: Baseline Definition

- **Result of**
  - **9 month DARPA BAA/PET process and**
  - **16 month AMG review and prototyping process**
    - **25+ federates, 8+ federations, range of applications**
- **Baseline includes**
  - **Version 1.0 of HLA Rules, Interface Specification, and Object Model Template**
- **Product is a baseline architectural definition which is substantially better than typical paper review product**
  - **However, this is a "baseline" definition which will mature and evolve**

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HLA Evolution: Two Year Transition

- A two year transition period focusing on
  - Transition new and ongoing simulation programs to use HLA
  - Developing reusable infrastructure and support tools
  - Maturing and evolving the architecture
- Six month review and update cycles
  - HLA Version 1.0 August 96
  - HLA Version 1.1 February 97
  - HLA Version 1.2 August 97
  - HLA Version 1.3 February 98
- Evolution will be managed via the ongoing AMG process with expanded participation from programs transitioning to HLA and external professional and standards organizations
- Continued AMG working/task groups
- Relationships with IEEE standards organization will mature during transition period

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HLA Evolution: Working Group Tasks

- **Assess the current state of the HLA Baseline Definition**
- **Identify specific areas needing attention and key issues to be addressed**
- **Provide a mechanism for input from programs as they transition to HLA**
- **Develop process for identifying options for addressing issues**
  - **To include prototype implementation and testing**
  - **IEC to serve as a focal point for HLA evolution**
- **Initiate added technology experiments as required**

AMG-13 Action and Plan

(DMSO/TST) Develop a structured process to support HLA evolution during the transition period.

- **This presentation is the first step in addressing this action by outlining the current set of outstanding issues**
- **Following this AMG, the WG leads will meet with DMSO**
  - **To review the issues and any current initiatives to address these issues**
  - **To develop a strawman process for addressing issues**
- **Strawman will be briefed back to the AMG at AMG-15**

HLA Object Model

- As part of the review process for development of HLA Object Model Template (OMT) Version 1.0, a set of issues were identified to be addressed in the evolution of the OMT Specification (distributed with OMT V1.0)
  - Dynamic Behavior
  - Algorithms
  - Object Model Metadata
  - Security
  - Interaction Hierarchies
  - Multiple Inheritance
- In addition, issues related to the development and use of HLA object models were identified
  - Tools
  - Object Modeling Guidance/Recommended Practices
- Finally, the need to provide a means to support common data representations across SOM has been identified

HLA Interface Specification

- I/F Spec comment process (forms in back of I/F Spec) will continue with Version 1.0
- Likewise, in preparing and reviewing Version 1.0 of the I/F Spec, a set of issues have been identified
  - Alternative APIs to the process oriented API now specified in I/F Spec 1.0
  - Extensions to support data routing coordinated with logical time
  - Generality and usefulness of data distribution management services to support different federation requirements
  - Use of HLA to support distributed federates
    - WARSIM program has taken lead to develop a discussion of issue and options

AMG-13 Time Management Presentation "Baseline Definition: How does it change?"

- **Process**
  - **Time Management document contains official definition of HLA time management services**
  - **time management working group defined (DMSO)**
  - **time management working group prepares recommendations concerning changes to services, longer term vision**
  - **recommended changes approved/disapproved by AMG**
- **Criteria: suggested changes should**
  - **provide significant new functionality that cannot be reasonably implemented with existing services, or enable significant performance enhancements to existing services**
  - **have a reasonably efficient implementation approach defined**
  - **be applicable to a reasonably broad class of actual or envisioned simulations, and**
  - **have application to specific DoD simulation(s) either in existence or under development**

Issue Papers

- In parallel with the development of processes , issues should be identified
- AMG members can submit issue papers which describe
  - functionality required that cannot be reasonably implemented with existing services, or enable significant performance enhancements to existing services
    - applicability of functionality to actual or envisioned simulations, including
      - specific DoD simulation(s) either in existence or under development
    - candidate implementation approach, if available

Next Steps

- **Provide input to Working Group leads on identified issues and process**
- **Input to TSTCore on issues that do not appear to fit into current working group structure in form of issues papers**
- **Working Group Leads meet with DMSO to define strawman process/guidelines**
- **Agenda item for AMG-15**